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THE PLANT DISEASE BULLETIN

Issued By

The Plant Disease Survey

VOLUME II. *NUMBER 10.*

September 15, 1918.

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

CONTENTS.

- Apple....168
  - Scab....168
  - Fire Blight....169
  - Apple Rust....170
  - Blotch....170
  - Blister Canker....170
  - Coniothyrium Canker....170
  - Bitter Rot....171
  - Black Rot....171
  - Northwestern Anthracnose....171
  - Phytophthora Rot....172
  - Root Rot....172
  - Powdery Mildew....172
- Bean....172
  - Anthracnose....172
  - Bacterial Blight....173
  - Rust....174
  - Mosaic....174
  - Sun Scald....175
  - Root Rot....175
  - Stem Rot....175
- Corn....175
  - Smut....175
  - Corn Rusts....176
  - Root Rots....177
  - Bacterial Wilt....177
- Cotton....178
  - Anthracnose....178
  - Angular Leaf Spot....178
  - Wilt....179
  - Root Knot....179
  - Boll Rots....179
  - Drought....180
  - Potash Hunger....180
  - Other Diseases....180
- Cucumber....181
  - Bacterial Blight....181
  - Anthracnose....182
  - Downy Mildew....182
  - Mosaic....182
  - Stem Rot....183
- Potato....183
  - Late Blight....183
  - Early Blight....184
  - Black Leg....184
  - Rhizoctonia....185
  - Mosaic....186
  - Leaf Roll....187
  - Verticillium Wilt....187
  - Fusarium Wilt....187
  - Tip Burn....188
  - Lack of Potash....188
- Tobacco....189
  - Root Rot....189
  - Mosaic....189
  - Miscelaneous Diseases....190

APPLE

Scab caused by Venturia inaequalis.

Georgia: (Berry) Very common in home orchards where spraying was neglected. In a number of mountain orchards the entire crop is scabby.

Iowa: (Melhus) General and destructive where trees are not sprayed.

Kansas: (Melchers) Has been reported a few times but is not very prevalent as June was extremely hot and dry.

Maine: (Morse) Scab has done more damage than the average but probably not so much as last year.

Massachusetts: (Doran) Not so much scab this season as in the past year.

Michigan: (Coons) Common. Spraying is effective.

Minnesota: (Bisby) Not so serious as usual.

New Hampshire: (Butler) Only a very little scab found this season.

New York: (Hesler) Wherever winter apples have been thoroughly sprayed according to general recommendation they are relatively free from scab. Many apples however have not been sprayed since the calyx application and these show considerable disease. Scab is present on both winter and summer varieties but the loss to the summer apples will be small as they are not grown commercially and are not graded or packed.

Ohio: (Selby) Heavy losses to winter apples this year. Has also been quite marked on susceptible early varieties such as Red Astrachan, Yellow Transparent and Early Harvest.

Oregon: (Owens) Not so serious as usual this season, probably on account of dry spring and summer. Even unsprayed trees show only a small percentage in most cases. In many localities no scab at all has been observed. In the Willamette Valley an occasional neglected orchard shows considerable disease. On one farm in Polk County 50% scabby fruit was counted on a few neglected trees. A very little disease has been observed in Douglas, Jackson and Josephine counties.

Pennsylvania: (Orton) Fairly prevalent but not so serious as last year; average loss probably 3 to 5%. Northern Spy among most susceptible varieties according to reports. Stayman and Winter Banana generally affected; Ben Davis slightly so, and as yet no reports for New York Imperial.

Vermont: (Lutman) Present but not serious; less than last year.

Washington: (Heald and Dana) Five reports from western Washington.

West Virginia: (Giddings) Reported as quite injurious in the Ohio and Kanawha valleys.

Wisconsin: (Vaughan) Less prevalent than usual with the exception of the Door County section.

Fire Blight caused by Bacillus amylovorus.

Connecticut: (Clinton) More prevalent than for some years. Damage chiefly on young twigs.

Georgia: (Berry) Has been very severe this season. Practically every tree showing some damage, occasional trees showing 50% of new shoots killed. For the state the crop was reduced at least 10% as a result of this disease.

Minnesota: (Bisby) More serious than for the last two years.

New York: (Hesler) Alexanders are showing rather heavy infection on fruit and twigs. Young trees have blighting badly.

North Dakota: (Bolley) Most of the winter varieties under cultivation in the state are not old enough to bear and blight badly every year. This disease causes the chief damage to these trees. It is very common on Siberian Crabs.

Ohio: (Selby) Twig blight has been very widely distributed this season causing twig infection after blossoming. These infections sometimes start in the leaf border. No cases of blossom infection reported. On the whole the losses will be less than in average seasons.

Oregon: (Owens) Observed this season for the first time in Douglas County where it broke out simultaneous in two different places. Present to some extent in Jackson and Josephine counties where it has been prevalent several years. It is probably the worst in Josephine County where the growers are not very alert in fighting it. The disease has been observed in a number of other parts of the state but in those places it is kept in control quite readily by prompt eradication.

Pennsylvania: (Orton) Losses this year from fire blight will probably average around 5%. Yellow Transparent, Summer Rambo, York Imperial and Smoke House are reported as susceptible.

Utah: (O'Gara) This is the only important apple disease noted. No cases of serious injury have been noted so far this season.

Washington: (Heald and Dana) Six reports from the central and eastern parts of the state have been received.

West Virginia: (Giddings) Reported as injurious on Yellow Transparents locally. It is evidently of far greater importance this year than last.

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Wisconsin: (Vaughn) Less prevalent than last year in most sections.

Apple Rust caused by *Gymnosporangium Juniperi-virginianae*.

Iowa: (Melhus) Very severe on Wealthy and Ben Davis.

Massachusetts: (Osmun) Severe in only scattered localities.

Minnesota: (Bisby) Abundant and caused considerable damage early in the season. First reported May 15 from Hennepin County. Relation of the disease to cedar is evident.

Pennsylvania: (Orton) Abundant leaf infection in the Cumberland Valley. Little fruit infection. Not so serious as in some years. Of slight importance on summer varieties. Reported also from Franklin County on Win. Sap, Ben Davis, Baldwin and York Imperial.

West Virginia: (Giddings) Less injurious this year than at any time within the last ten years.

Blotch caused by *Phyllosticta solitaria*.

Kansas: (Melchers) This has been one of the most destructive diseases of summer apples this past season. It was difficult to find fruit of the early varieties unaffected with blotch, even those from well-sprayed orchards being badly diseased.

Pennsylvania: (Orton) Very severe on Smith Cider and Stark, both on fruit and leaf petioles, causing defoliation. Infection most severe in southern half of the state and is working northward in the eastern part very rapidly. This disease is fast becoming one of the most serious apple diseases in Pennsylvania. Of the summer varieties Maiden Blush is the most affected.

Blister Canker caused by *Nummularia discreta*.

Kansas: (Melchers) This disease is second only to blotch in severity this past season.

New York: (Hesler) A few cases found in two commercial orchards in the Mohawk Valley among mixed varieties. Only Ben Davis and Sutton (Beauty) were affected.

Coniothyrium Canker caused by *Coniothyrium pyriana*.

Kansas: (Melchers) In the northeastern portion of the state during the spring and early summer months this canker seemed to be the disease causing the

greatest concern. Reports have been less frequent during July and August however. In young orchards this trouble causes losses ranging from 1 to 65%.

Minnesota: (Bisby) Reported from five counties in June and July.

Bitter Rot caused by Glomerella cingulata= rufomaculans.

Georgia: (Berry) Has developed rapidly during August and it is common to find every apple on individual trees infected. The loss from this disease is variously estimated at from 5 to 25% by different reporters.

Massachusetts, Southeastern Section: (Haskell) Fairly prevalent and in some cases very serious on certain varieties that mature in mid-summer. Observed in one orchard on summer Greenings rendering them entirely worthless for marketing.

Washington: (Heald and Dana) Reported once this season from the central portion of the state.

Black Rot caused by Physalospora cydoniae.

Georgia: (Berry) Disease is making its appearance, September 1, and if conditions become favorable may result in some damage.

Minnesota: (Bisby) Disease wide spread, especially reported in central portions of the state.

Pennsylvania: (Orton) Most prevalent in the Cumberland Valley and eastern Pennsylvania, causing frog eye. Fruit rot not so prevalent nor so serious as last year. From 60 to 90% leaf infection in Adams County on such varieties as York Imperial and Baldwin.

Northwestern Anthracnose caused by Neofabraea malicorticis.

Oregon: (Owens) Disease is prevalent in Willamette Valley where it does a great deal of damage in neglected orchards. It occurs at Hood River and farther east in the state but better care is given orchards in these districts and the more intensive apple culture keeps the disease within bounds. It is prevalent in Benton County where some orchards have been observed in which the profits have been reduced at least 75% by neglect of control measures. Present also in Jackson and Josephine counties. Disease is readily controllable and its effects are negligible in well-cared for orchards.

Washington: (Heald and Dana) Twelve reports from western part of the state.

Phytophthora Rot caused by *Phytophthora cactorum*.

New York: (Hesler) One case noted on Rhode Island Greenings in Monroe County. First record of the disease in New York outside of Ithaca.

Root Rot caused by *Armillaria mellea*.

Oregon: (Owens) Occurs quite generally not only in apple orchards but among other fruits as well, especially where the orchards have been set in clearings of oak and fir, particularly oak, before all old stumps and roots have thoroughly rotted out. Many trees seen dying from root rot in Hood River Valley. Mr. Childs, pathologist at the Hood River branch station, says that since irrigation systems have been installed in the district from 1 to 1 1/2% of the apple trees have been lost from *Armillaria* root rot.

Powdery Mildew caused by *Podosphaera leucotricha*.

Oregon: (Owens) Disease quite general throughout the state but in only a few instances was it found to be severe this season. Common in Benton County but seldom observed in Douglas, Jackson, Josephine and Lane counties. In one orchard in the Hood River Valley at least 50% of the tips were mildewed. This orchard had not been given a regular scheduled spray.

Washington: (Heald and Dana) Nine reports from central and western Washington.

BEAN

Anthracnose caused by *Colletotrichum lindemuthianum*.

Colorado: (Robbins) More prevalent this year than last. Pods most affected. Rainy weather proceeded the appearance of the disease.

Greeley Section: (MacMillan) Disease present locally but losses of no consequence.

Maine: (Morse) Very common; widespread and destructive. Possibly not so much injury as in 1917 but more than the average. Particularly severe on Yellow Eye. White Kidney seems quite immune in this locality.

Massachusetts: (Krout) Much less severe than last year. First observed July 10 at Arlington. Regions that have received scant rain fall show very little disease but in sections where precipitation was heavy the disease has been severe.

Michigan: (Coons) Very scarce in the ordinary field. Two cases reported where the disease was severe. Badly affected seed was probably responsible for such local epidemics.

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Minnesota: (Bisby) Not so common on dry beans as on snap varieties. Very wide spread, however, affecting both pods and leaves.

New Hampshire: (Butler) Generally distributed and frequently destructive.

New York: (Burkholder) Observed only in small amounts this year. Losses not over 1%.

Ohio: (Selby) About the same as last year. Very severe. Pods and leaves both affected. No data at hand regarding the relation of weather to the disease or susceptibility of varieties.

Pennsylvania: (Orton) Reported from a number of counties in amounts ranging from 5 to 10%. No serious losses as yet.

Vermont: (Lutman) Plentiful on garden and wax beans but does not seem to be serious as yet on dry beans.

Bacterial Blight caused by *Bacterium phaseoli*.

Colorado, Greeley Section: (MacMillan) Prevalent, causing moderate damage. Leaves and pods both attacked. Spotting of pods will cause reduction in yield of about 20%. Great variation in amounts of disease is noted in different fields.

(Robbins) In the Greeley section blight has approached an epidemic. Some fields have been entirely destroyed. The disease followed a period of rainy weather. A considerable amount of stem girdling one or two inches above the ground line was noticed. Plants thus affected would break off and die. It is uncertain whether or not this is brought about by the blight organism. The same trouble was noted in the Arkansas Valley.

Massachusetts: (Krout) General throughout the state, affecting leaves principally. Wet weather appears most favorable for development.

Michigan: (Coons) Present everywhere and doing much damage to leaves. Seed infection so far not serious. Crop is practically all ripe and will be very clean. Yield may be light because of early maturity forced by hot weather.

Minnesota: (Bisby) Widespread, particularly on navy beans. Not so bad as last year.

New York: (Chupp) Prevalent, causing considerably more damage than anthracnose.

(Burkholder) Present in 75% of the bean fields and causing considerable damage, especially among the red kidneys.

Pennsylvania: (Orton) Generally prevalent but doing no damage to pods. Average loss 5%. First reported July 10.

Wisconsin: (Vaughan) Less than last year. Spots on pods and leaves. First noted at Madison, August 2.

Rust caused by Uromyces appendiculatus.

Colorado, Greeley Section: (Robbins) Observed in all bean growing sections of the state. Losses not serious.

(MacMillan) Very slight locally. In all the yield will not be reduced more than 2%.

Maine: (Morse) Bean rust, as usual has appeared on pole beans, more particularly the Kentucky Wonder variety. A few specimens have been received and some interesting observations were made relative to the resistance of a number of varieties grown in the university gardens. These are given below in tabular form.

Variety	Habit	Rust infestation. (Uromyces appendiculatus)
Kentucky Wonder	pole	severe
Crease-back	"	"
Stringless Green Pod	bush	"
Colorado Pinto	"	"
California Pink	"	"
California Lady Washington	"	"
Idaho Small White	"	"
Wardwell's Kidney Wax	"	Very slight
Black Turtle Soup	"	" "
Long Podded Forcing	"	none
Long Podded Green	"	"
Lowe's Champion	"	"
Horticultural Bush	"	"
California Red Kidney	"	"
California Black-eye	"	"
California Cranberry	pole	"
Horticultural Pole	"	"

Note: These were all grown on a small piece of land, in 7 rows 140 to 150 feet long with two or three varieties to the row; consequently all varieties were fairly equally exposed.

Massachusetts: (Krout) Not prevalent in any appreciable degree.

Ohio: (Selby) Very bad in Lawrence County.

Mosaic

Idaho: (Owens) Mosaic specimens were received from Twin Falls.

Michigan: (Coons) Observed but not reported by county agents as being especially severe.

New York: (Burkholder) Mosaic is very general throughout the state, affecting the pea beans most severely. The yield of this variety has been reduced over 50%. The Mediums are also severely affected. Although mosaic occurs in other varieties it is causing little damage.

Oregon: (Owens) Very prevalent everywhere in the state.

Pennsylvania: (Orton) Not very serious except in one 2 1/2 acres field in Erie County where 25% of the plants were diseased.

Wisconsin: (Vaughan) A few scattered plants showing mosaic were observed. Disease does not seem to be spreading much.

Sun Scald caused by weather conditions.

Pennsylvania: (Orton) Serious in Philadelphia, Berks and Indiana counties.

Root and Stem Rots caused by various organisms.

Colorado: (Robbins) Entire fields were seen in the Greeley district where all the plants were affected with *Rhizoctonia* stem rot. This trouble has not been very prevalent in Weld, Fremont, Otero and Las Animas counties.

Massachusetts: (Osmun) Sclerotinia libertiana has caused stem rotting in some fields about Boston.

New York: (Burkholder) The dry root rot is in 60 to 70% of the bean fields and is probably causing a reduction in yield of 8 to 10%.

Pennsylvania: (Orton) Rhizoctonia is rather common and causing considerable injury in gardens.

CORN

Smut caused by *Ustilago zeae*.

Colorado: (Robbins) Prevalent. Patches have been noted in which 10% of the plants are infected.

Greeley Section: (MacMillan) Present locally in moderate amounts. Great variation in severity of attack is noted. Some fields are free while others show a very high percentage of infection. The average amount of disease is from 2 to 5%.

Connecticut: (Clinton) About the same as usual. Common but not serious.

Iowa: (Melhus) Disease common, causing more injury to sweet corn than to field.

corn. On Station plots several plants three feet high were killed outright.

Massachusetts: (Osmun) Less than usual, not over 1/2% of the crop affected.

Michigan: (Coons) Extremely common, both on sweet and field corn. Noted this year on extremely young plants. Farmers are complaining that corn is excessively smutty, especially in the southern tier of counties.

Minnesota: (Bisby) About the usual amount.

New York: (Chupp) Present in all parts of the state and in some fields, especially of sweet corn, causing a large percentage of loss. No exact data concerning its economical importance have been collected.

North Dakota: (Bolley) Smut is more common here on new lands than I have ever observed it in the corn states. Indications point to the evidence that the disease is seed borne or that it may be wind borne a greater distance than is ordinarily believed possible.

Ohio: (Selby) Present in usual amounts. In certain localities reported worse than usual.

Pennsylvania: (Orton) General throughout the state, causing about 2% loss. Reported as most severe in Indiana and Clarion counties on field corn. Ten percent loss in sweet corn is reported from Clearfield County.

Virginia: (Fromme) Common but rarely exceeds 1%.

Washington: (Heald and Dana) Prevalent in the Yakima Valley and Walla Walla County. Rare in eastern sections of Palouse country.

Wisconsin: (Vaughan) Prevalent in about the same amounts as usual.

Corn Rusts caused by *Puccinia sorghi*.

Connecticut: (Clinton) Occasionally found but not injurious.

Iowa: (Melhus) Quite severe. More prevalent than usual. Plants 18 inches high show first third of the leaves killed in most severe cases.

Massachusetts: (Osmun) Common on field corn but causing only slight damage to crop.

Michigan: (Coons) Common on field and sweet corn, but causing no particular damage.

Minnesota: (Bisby) In rather more than normal abundance.

New York: (Chupp) Reported twice this season.

North Dakota: (Bolley) Rust common everywhere in Red River Valley but seldom

early enough to materially reduce the yield. An abundance has been collected this year.

Ohio: (Selby) Doubtless occurs in all portions of the state in slight amounts.

Pennsylvania: (Orton) Probably less than usual this season on sweet corn. Heaviest infection 75% in Lancaster County. Loss of 5% reported from Berks County and 25% from Center County in one field. Locally prevalent in other sections.

Wisconsin: (Vaughan) Very prevalent. Not much evidence of damage to either sweet corn or field corn.

Root rots caused by *Fusarium* spp.

Connecticut: (Clinton) Observed for the first time in several fields of sweet corn but it was inconspicuous and not doing any considerable damage.

Iowa: (Melhus) Small amount present.

Massachusetts: (Osmun) Occasional but not serious.

Michigan: (Coons) Not known in the state unless poor stands from moldy seed are included.

Ohio: (Selby) Generally prevalent; unexpectedly severe in many portions of the state. Notable so on continuous fertilizer corn plots at the Station and elsewhere, and in districts where continuous cropping of corn is practiced. Aside from root rot conditions there is a considerable amount of dwarfed corn accompanied by yellow or reduced green foliage. This appears to be due to uneven and insufficient moisture supply. Recovery since recent rains has been very marked.

Pennsylvania: (Orton) This disease appears to be prevalent throughout the state but more survey work is needed before the damage can be estimated. Has been found fairly prevalent in Erie, Cumberland, Huntingdon, Center and Philadelphia counties, both on sweet and field corn, affecting from a trace to 20% of the plants.

Bacterial Wilt caused by *Bacterium stewartii*.

New York: (Chupp) Reported once from Tompkins County.

Pennsylvania: (Orton) Reported on sweet corn in Lancaster and Berks counties, causing 5% loss in the latter locality. One percent infection noted at State College.

Virginia: (Fromme) Prevalent this year in gardens in Blacksburg, especially on Golden Bantam type. Loss rather above 10%.

COTTON

Anthracnose caused by *Glomerella gossypii*.

Arkansas: (Elliott) This disease has not assumed any importance as yet this year due to the very dry season.

Georgia: (Berry) Occurs commonly over the state. Damage not exceeding 5%.

Louisiana: (Edgerton) This disease has not done as much damage this season as usual taking the state as a whole. Dry weather prevented its development during the early part of the season. During the past few weeks there has been considerable development of anthracnose in sections which have had much rainfall.

Mississippi: (Fields) General over the state but not abundant in most places. Is fairly evident in sections where gin run seed is used. In one field of 200 acres near Helm it was estimated about 20% of the crop would be lost.

South Carolina: (Seal) Very little anthracnose thus far, but we may expect numerous reports during the next month.

Tennessee: (Essary) Unobserved as yet.

Texas: (Taubenhaus) Not prevalent as yet.

Angular Leaf Spot caused by *Bacterium malvacearum*.

Arkansas: (Elliott) General and causing some damage.

Georgia: (Berry) Very common but usually not serious. Percentage of infection is about 5% for the state and the damage not over 1% of the crop.

Louisiana: (Edgerton) Has been reduced by dry weather but like the anthracnose has developed considerably in regions where rain has fallen.

Mississippi: (Fields) General over the state. The infection varies from a tra to a severe rusting of leaves depending somewhat on the variety and on soil and climatic conditions.

Oklahoma: (Learn) Quite prevalent in many parts of the state.

South Carolina: (Seal) Very common in every field, in some cases causing premature sheeding of the leaves.

Tennessee: (Essary) Common but has caused only slight damage.

Texas: (Taubenhaus) Not prevalent as yet.

Wilt caused by *Fusarium vasinfectum*.

Arkansas: (Elliott) Wilt is the most serious disease this year and is prevalent in many parts of the state. Resistant varieties are being introduced.

Georgia: (Berry) General, especially in the southern part of the state. Many fields in the coastal plain show a total failure of the crop where resistant strains were not used. Average damage from 5 to 10%.

Louisiana: (Edgerton) Very common and causing considerable loss. Is well scattered over the sandy and bluff soils.

Mississippi: (Fields) Present in small amounts.

South Carolina: (Seal) Wilt has not yet been reported as often this year as in the past but nevertheless causes a loss of about 5%.

Tennessee: (Essary) Reported from one section in Shelby County. Damage is severe locally.

Texas: (Taubenhaus) Serious in sandy lands, total loss about 5% of the entire cotton crop.

Virginia: (Fromme) Reported from Mecklenburg County.

Root Knot caused by *Heterodera radicicola*.

Arkansas: (Elliott) Quite prevalent in sandy lands of the southern part of the state.

Louisiana: (Edgerton) Not much complaint from root knot.

Mississippi: (Fields) Not observed as yet this season.

South Carolina: (Seal) Causing some serious losses especially where wilt is present in the same fields.

Texas: (Taubenhaus) Prevalent but not very serious.

Boll Rots of various kinds.

Georgia: (Berry) Boll rots due to bacteria are present to a small extent but seldom cause great damage.

Louisiana: (Edgerton) Not serious on account of dry weather, except in those localities where there has been considerable rain recently.

South Carolina: (Rosenkrans) Diplodia boll rot is not very general, there being only an occasional diseased boll.

Tennessee: (Essary) Very severe on young bolls throughout the cotton growing sections of the state. The disease has been complicated by drought and red spider which are severe over the state.

Drought.

Louisiana: (Edgerton) The dry weather followed by rains caused considerable shedding of the young bolls.

Texas: (Taubenhaus) Drought has greatly limited cotton diseases this year.

Virginia: (Fromme) Dry weather is responsible for much of the cotton injury this year.

Potash Hunger (often called "Rust").

Alabama: (Armstrong in C. & T. News Notes No. 20.) Potash hunger in cotton is very prevalent in Tallapoosa County, spots in some fields being entirely defoliated. Reports of potash hunger have also been received from several other counties.

Louisiana: (Edgerton) So called rust has been very serious this summer. Many fields have been totally defoliated and killed. I have never before seen it so serious. I do not think that the trouble is all due to lack of potash as most of our fields are abundantly supplied with this element. The leaves die after becoming badly affected with Cercospora together with some Alternaria and some times angular leaf spot. There is also some weather or soil factor involved.

Mississippi: (Fields) Evidences of potash hunger are scattered generally over the state.

South Carolina: (Rosenkrans) Potash hunger varies in amount in different localities but is general in the coastal plain. Some fields where there are no indications of injury by red spider or lice are completely defoliated.

Other Diseases.

California: (Milbrath in C. & T. News Notes No. 22.) The cotton crop in the Imperial Valley is apparently free from disease except a form of purplish red leaf spot of varying size, which also often appears on

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the bolls. This is a bacterial trouble but so far has not done much damage.

Georgia: (Berry) Mosaic was observed in a few isolated fields but is not important.

Mississippi: (Fields) The dying of squares and bolls as described by Hewitt of Arkansas in Phytopathology 1914 is general and is probably the most serious cotton trouble this season.

South Carolina: (Rosenkrans) Matting was found to a slight extent in most fields, the loss caused by it not being great. "Black seed" due to a run down condition was noticed in a few fields, where the plants are small and stunted and the seeds produce practically no lint.

Texas: (Taubenhaus) Root rot caused by Ozonium omnivorum is the most serious disease of cotton in Texas.

CUCUMBER

Bacterial Blight caused by *Bacillus tracheiphilus*.

Colorado: (Robbins) Reported from Montezuma County July 16. Loss slight.

Iowa: (Cromwell) Prevalent; appeared early in July in the southern part of the state.

Kansas: (Melchers) Not common this year. First reported July 9 in Riley County. Hot dry weather in August practically destroyed the crop.

Michigan: (Coons) Reported from about ten localities. Probably unusually severe. Was not sent in following extremely hot weather.

Minnesota: (Bisby) Fewer reports than last year; not found until August 7.

New Jersey: (Chupp) Scattered this year.

New York: (Chupp) Reported from nearly every cucumber section in the state, especially on Long Island and about Buffalo.

Ohio: (Selby) Has occurred in average amounts. Control measures ordinarily used are removal and burning of wilted parts and plants.

Pennsylvania: (Orton) Losses severe in Lancaster and Alleghany Counties where 60 to 65% of the plants were killed in many patches. Average loss probably 2 to 3%. First reported August 1. Dusting for beetles failed to control the disease in Alleghany County.

Tennessee: (Essary) Disease common but little damage has been done except in certain localities where the injury took place early in the season.

Virginia: (Fromme) First reported from Manassas July 8. Seems to be generally prevalent throughout the state and to be the cause of the greatest

losses to cucumbers.

Anthracnose caused by Colletotrichum lagenarium.

Florida: (Stevens) Only one case reported this season and that on the leaves. Disease is apparently not important in the state.

Massachusetts: (Osmun) More prevalent this year than last. First appeared in Arlington about May 15 with small injury. An outbreak at West Springfield about July 1 caused fully 25% loss. Found only in greenhouses. Bordeaux mixture 4-5-50 was effective in control.

New Jersey: (Cook) Scattered throughout the state.

Ohio: (Selby) Appears to have been less prevalent this year than last. Fruit infection apparently very small while leaf and vine infections have been numerous. Bordeaux mixture has proved fairly effective where applied thoroughly and regularly.

Pennsylvania: (Orton) Present locally, causing 5% loss in one county. Not especially serious in other sections.

Downy Mildew caused by Pseudoplasmopara cubensis Rostow.

Florida: (Stevens) This is an important disease of cucumbers in Florida. No data available as to losses, but perhaps 25% of the crop was affected this season. Spraying has proved effective against the disease where applied thoroughly and timely.

New York: (Chupp) Reported once from Long Island.

West Virginia: (Giddings) Slight injury noted in Tucker County the last week in August.

Mosaic (cause undetermined).

Massachusetts: (Osmun) Reported from North Lexington and Springfield. Caused a loss from 10 to 25%. First noted August 9, spreading rapidly. Found only in fields.

Michigan: (Coons) Specimens received from ten counties. In most cases the disease was ruining the crop. Found in college plots on all varieties except Japanese climbing cucumbers.

Minnesota: (Bisby) Disease common and partioularly serious in certain greenhouses.

New York: (Chupp) Prevalent in nearly all cucumber sections. Specimens received from Nassau, Erie and Tompkins counties.

Ohio: (Selby) Appears to have occurred in rather less amounts than normal.

Pennsylvania: (Orton) Has occurred to our knowledge in slight amounts in at least three counties.

Washington: (Heald) One specimen showing some symptoms of disease received from Kent, Washington.

Stem Rot caused by Sclerotium sp.

Pennsylvania: (Orton) Found in a few places, notably in Erie County.

POTATO

Late Blight caused by Phytophthora infestans.

Connecticut: (Clinton) Appeared early in season in a few fields but did no particular damage because of the early death of the vines in these fields from other causes. No complaints have been received yet from the northern part of the state where there may be some injury, especially rot.

Iowa: (Melhus) Found in three fields in Mitchell County August 6. Seems to be general in the county.

Maine: (Morse and Haskell) Disease widely distributed all over state. More or less of it can be found in practically every field. In the majority of fields, particularly those that were sprayed, the disease was not doing much damage to the vines, but in a few fields the potato plants were killed. The disease developed during the latter part of July and early August but was checked by the dry weather of the latter month. During that time the fungus died to a considerable extent in the leaves but remained alive in the thicker petioles and stems so that on September 7 - 10 an unusual amount of stem infection was evident. Showers during the first ten days of September somewhat favored the development of blight in green fields with the result that the disease made some progress. Heavy and continuous rains would undoubtedly have resulted in much rot but the vines were cut down by a killing frost on the night of September 10. The amount of rot on Irish Cobblers is small but a few cases have been reported.

Massachusetts: (Osmun) Present to a small extent in the southeastern part of the state. Has not been reported from there, however, since August 8.

Minnesota: (Newhall, Sept. 7.) Prevalent in Dodge County where a considerable amount of rot is developing. The disease probably extends eastward into Wabasha and Winona counties.

New Hampshire: (Butler) Found in Hillsboro and Strafford counties in July.

New Jersey: (Cook) No extensive or recent developments.

New York: (Chupp) No new developments since the last report.

Pennsylvania: (Orton) Appeared in Tioga County August 3, reported in Luzerne County August 26, and in McKean County August 25. More or less prevalent in Fayette County; quite common in Jefferson County August 5, and local in Mercer County August 10.

Vermont: (Lutman) Scattering all over state but in no instance serious as yet. First reported about July 20 from Randolph and Bennington. Frost killed the vines in the greater part of the state September 10 with the result that much damage from rot will be prevented. Along the shore of Lake Champlain potatoes largely escaped frost damage and blight continues to develop on green plants.

Washington: (Heald) No reports from the eastern part of the state. One report by Frank from Bellingham May 3.

West Virginia: (Giddings) First reported July 30 and found in several counties during the last week in August. The only section where it seems likely that much damage may result is in a limited area of Tucker County.

Wisconsin: (Wright) Several fields of potatoes, most of which are of the Green Mountain variety, show blight in Barren County. Recent conditions have been favorable for the development and spread of the fungus. The disease is also reported from two fields in Lincoln County.

Early Blight caused by Alternaria solani.

Disease widespread and more or less prevalent throughout the late potato belt. In general it is doing little or no damage, but in a few localities, particularly in certain sections along the New England and Middle Atlantic coast some damage is resulting.

Georgia: (Berry) Serious in south-eastern portion of state this season.

Michigan: (Woodcock) Some damage in small gardens, but comparatively little generally.

Minnesota: (Newhall Sept. 2nd.) Early blight is gaining foothold in about 2/3 of the fields running up to 90 to 100% in a very few fields of Triumph and Cobbler. Not so general on late potatoes and noticeably lacking in fields of both late and early varieties that were planted late. Worst on light soil.

New York: (Fish, C. & T. Notes Aug. 24.) Far more conspicuous during last two weeks than any other disease.

Black Leg caused by Bacillus phytophthorus.

Massachusetts: (Osmun) Occurs occasionally but is not serious this year.

Michigan: (Coons) Disease is still a serious problem in the Upper Peninsula. Fields showing 7-10% are reported from Cheboygan County. Reported from

various sections in the state. In one case the grower reports 25% loss.

(Woodcock) Widely distributed and doing serious damage in certain sections. 18% diseased plants have been observed in one field of Green Mountains. 14 rows of cut seed show 7% black leg and 2/3 of a stand. In 44 rows of the same seed which was uncut there was only 1% black leg and a perfect stand.

Minnesota: (Newhall) Very common in practically all fields visited. As a whole it causes a great deal of loss. Evidence is at hand to show that corrosive sublimate is superior to formaldehyde in control.

(Bisby) Common throughout the state. Quite severe in the Red River Valley.

New York: (Chupp) Has been reported from Steuben, Livingston and Cortland counties.

North Dakota: (Bolley) Disease important for future studies and survey. Apparently gaining in seriousness.

Ohio: (Selby) Found occurring in amounts less than 1% in a number of fields.

Utah: (Hill) Particularly bad this season, especially in early potato growing sections. A special survey in Davis County has shown 5-20% of the vines dead or dying. Disease also showing to some extent in late potatoes.

Washington: (Heald) Reported from six localities in the state.

West Virginia: (Giddings) Fairly prevalent in Tucker County and quite severe in some fields.

Wisconsin: (Vaughan) Disease very prevalent where no seed treatment has been given.

Rhizoctonia caused by Rhizoctonia solani.

Connecticut: (Clinton) More common than usual.

Iowa: (Melhus) Present everywhere causing small leaves. Mycelium evident above ground.

Massachusetts: (Osmun) Present in moderate amount in all parts of state. Stem injury slight, Sclerotia abundant on newly dug tubers.

Michigan: (Woodcock) Many cases noted of uneven stand and missing hills.

(Coons) Severe in southern part of state, causing poor stand.

Minnesota: (Newhall) Generally prevalent and in some cases infecting a considerable number of plants. Damage not great however.

(Bisby) Widespread but doing only usual amount of damage.

Nevada: (Frandsen) Prevalent but commercial potato raisers control it fairly well by seed treatment.

New York: (Chupp) Common and destructive in all parts.

Ohio: (Selby) Somewhat less than usual.

Oregon: (Owens) Generally prevalent over the state. Average 3 to 5%, sometimes running as high as 20% infection.

Pennsylvania: (Orton) Locally prevalent but not thought to be doing very much damage. Reported as most severe in Erie and Adams counties.

Utah: (Hill) Not serious on commercial patches. Most farmers have carefully rotated their crops and treated seed. A few who have not are losing from 10 to 30% of crop.

(O'Gara) General and doing considerable damage.

Washington: (Heald) Twenty-three reports received. Very general and severe in all parts of the state, causing early death of vines. Losses reported up to 50%. Disease favored by dry condition in eastern and western sections and by unfavorable temperatures in irrigated sections.

Wisconsin: (Vaughan) Very prevalent and proving to be one of the most destructive troubles. Present indications are that formaldehyde treatment is very ineffective. Corrosive sublimate has given good results and improved the stand greatly.

Mosaic (cause unknown).

Connecticut: (Clinton) Common but not serious.

Georgia: (Berry) Small amounts generally not severe.

Maine: (Ramsey) Green Mountains in Somerset and Penobscot Counties comparatively free from mosaic. No fields were seen in these counties with over 5%. In many instances one had to look very closely to find even a trace.

Massachusetts: (Osmun) From 1 to 90% infection observed. Most severe as a rule where locally grown seed was used but fields planted with northern grown seed are not free and sometimes show as high as 30%. Green Mountains most affected.

Michigan: (Coons) In commercial fields of Green Mountains Professor Woodcock reports no field with more than 5%. In potatoes of various varieties from Maine 90 to 100% mosaic was evident. Mr. Waid reports Bliss Triumph as very poor quality throughout the state, presumably from mosaic.

(Woodcock) Common on Green Mountains and Triumph. One case was observed on potatoes of the Rural type as high as 45%.

Minnesota: (Bisby) Mosaic has occurred this year, particularly on Triumph.

New York: (Chupp) Present in most parts of the state; very abundant in the north but does not reduce the yield there so much as on Long Island.

North Dakota: (Bolley) Not common but observed in some fields.

Ohio: (Selby) Small amount present:

Oregon: (Owens) A few cases of mosaic were observed; one field going as high as 6%.

Vermont: (Lutman) Mosaic occurs in amount varying from 5 to 100% and will probably average 15 to 25%. A few regions are still comparatively free from it. It is the most serious disease this year.

Wisconsin: (Vaughan) Noted most in Triumph and Green Mountain fields. Less mosaic has been noted in sections where fields are well supplied with humus and available soil fertility.

Leaf Roll (cause undetermined).

Massachusetts: (Osmun) Severe in some fields of Irish Cobblers.

New York: (Chupp) Many fields in western New York show high percentages; 30% is very common. Not so much in the eastern part of the state.

Ohio: (Selby) Disease found in a considerable number of fields.

Verticillium wilt caused by Verticillium albo-atrum.

Oregon: (Owens) One of the most serious diseases of potatoes in Oregon. It is present in nearly all fields, probably averaging 3 to 5% and running as high as 20% in a few cases.

Fusarium Wilt caused by Fusarium oxysporum.

Michigan: (Woodcock) Observed in increasing amount during latter part of August. Probably cutting down the yield by 8% in a number of places.

(Coons) Common as usual.

Minnesota: (Bisby) Not serious outside of the Red River Valley. Considerable late development of disease there.

New York: (Chupp) Apparently becoming more prevalent each year, especially in the Hudson Valley and Long Island.

North Dakota: (Bolley) Very common. This is the chief potato disease and

probably takes nearly 1/4 to 1/3 of the crop each year. Apparently not so destructive as usual this year because of the rather extended campaign for control and unfavorable soil and weather conditions.

Ohio: (Selby) Widely distributed, causing probably less than 3% injury.

Pennsylvania: (Orton) Average loss at least 5%. Generally prevalent and severe in some places.

Utah: (Hill) In home gardens where potatoes have been grown repeatedly it is very bad. Some gardens have been visited in which 75% of the plants have gone down. It is much less important on commercial patches, where less than 1% of the plants are diseased.

(O'Gara) Very general and doing much damage, probably more than in 1917.

West Virginia: (Giddings) Quite prevalent and injurious in the Ohio Valley section.

Tip Burn.

Michigan: (Coons) Tip burn has been the most severe potato trouble this year. The early crop was practically a failure in many sections due to the drying up of the vines. Many of the small tubers thus formed have sprouted again with the onset of wet weather.

Minnesota: (Newhall) Quite prevalent this year particularly on early varieties.

North Dakota: (Bolley) Marginal burning and early blighting due to insufficient water absorption have been common and destructive this year.

Ohio: (Selby) Tip burn about everywhere and serious in effect.

Pennsylvania: (Orton Aug. 15.) Has been especially severe and undoubtedly reduced the yield of early potatoes greatly, probably 30 to 50%. Disease worse in unsprayed fields. Poor cultivation due to lack of labor was probably another reason for severity of tip burn.

West Virginia: (Giddings) Tip burn extremely prevalent and very destructive throughout all of the lower section of the state and particularly in the Ohio, Kanawha and Monongahela River valleys.

Wisconsin: (Wright Aug. 12.) This is by far the most general trouble we have at present. There has been some discussion as to whether or not this is all due to climatic factors.

Lack of Potash.

Maine: (Ramsey, C. & T. News Notes Aug. 24.) Specimens showing potash hunger are coming in to the Experiment Station every day from various sections of the state. This trouble is very common and is causing considerable damage.

Early Maturity, Wilting and Tip Burn of Potatoes caused by Insufficient Moisture, Lack of Proper Plant Food, Etc.

Connecticut: Prematuring, wilting and death of potato vines occurred quite generally this season in southern Connecticut. According to a report of Dr. G. P. Clinton the trouble first showed on Irish Cobblers or other early varieties and later appeared on late varieties. In general it seemed to develop after blossoming and when rapid tuber formation was in progress. Dr. Clinton has very good evidence that lack of moisture and sufficient plant food of which potash is one of the important factors are primarily responsible for the trouble rather than fungi, insects or poor seed, all of which have been popularly considered the cause. A similar trouble is reported from Long Island and in certain parts of New Jersey, New York and Massachusetts.

TOBACCO

Root-rot caused by Thielavia basicola.

Connecticut: (Clinton) Serious in a few fields but not unusually abundant as a rule.

Massachusetts: (Chapman) Widely distributed as usual but causing serious injury this season only in few fields. Probably causes slight falling off in the growth in many cases. Weather conditions have been favorable for the development of the disease.

Ohio: (Selby) Root-rot has damaged the tobacco crop in the cigar filler area, Montgomery, Darke and adjacent counties, pretty badly, in some cases the loss being almost total. It has been demonstrated that steaming the plant beds in alternate years will not keep down this fungus.

Pennsylvania: (Orton) Slight loss in Lancaster County.

Wisconsin: (Johnson) This disease caused serious damage during June and July by stunting the crop. Many plants made partial recovery during August so that an estimated damage of three to five million dollars in July was reduced to perhaps one to two million dollars in August. Tobacco crop in Wisconsin this year is valued at twenty millions.

Mosaic.

Connecticut: (Clinton) Occasional but causing no unusual injury.

Massachusetts: (Chapman) Mosaic is widely distributed as usual but the damage is much less serious than during the past two years. The average infection found on marketable leaves is less than 2%. Frenching was found in several places this season, being more prevalent in certain parts of new fields. Loss very small.

Miscellaneous Diseases.

Connecticut: (Clinton) The tobacco crop which was threathened at one time with serious drought injury is very good. Serious hail and wind damage have occurred in restricted areas. There have been isolated cases of lightning and frost injuries. Hollow stock (bacterial) was noted for the first time.

Massachusetts: (Chapman) A root rot not ascribable to Thielavia nor to any one fungus positively, has been found in certain fields where it has much reduced the yield. General distribution not known. This is probably similar to the root rot found in Wisconsin by James Johnson last year.

Pennsylvania: (Orton) Damping off caused by Rhizoctonia (?) has caused 2% loss to young plants in Lancaster County.

Wisconsin: (Johnson) Leaf shots (Rust) not so prevalent as usual. Some bacterial leaf shot was present in seed beds and fields early in season but the plants show a complete recovery.